20 June 2014

Is Virtual Reality Changing the Nature of War?

Virtual reality has changed how militaries train and prepare for combat, but is its influence extending as far as the above question suggests? For Robert Bunker, the answer depends on how you define 'the nature of war'.

By Robert Bunker for ISN

Concepts of 'virtual reality,' an interactive artificial environment experienced by a human through computer generated sensory stimuli, have been around since the late 1950s/early 1960s. Those concepts, along with the technology underlying them, have greatly evolved over the course of decades through flight simulators to various forms of scientific and entertainment visualization to augmented realities. Virtual reality, as an interactive human-computer experience, has utility in business, industry, science, entertainment and many other facets of early 21st century human civilization. While virtual reality allows for training, enhanced mission performance, and other forms providing military utility, this begs the question whether its impacts will not eventually have far more significance than initially realized.

In responding to the prompt "Does the rise of virtual reality change the nature of war?" the answer must be that it all depends on how you define the 'nature of war' and view the impact of 'virtual reality.' Such definitions and views can have philosophical, pre- and post-modernist, and even science fiction-like (human-machine interface and artificial intelligence) qualities. According to Antulio Echevarria II, from a Clausewitzian interpretation, war has both an objective and subjective nature:

The objective nature of war includes those elements—such as violence, friction, chance, and uncertainty—that all wars have in common. Conflicts can range in kind from an all-out attack to a war of observation (peacekeeping), for instance, but each will have all of these elements present to one degree or another. By contrast, the subjective nature of war encompasses those elements— such as military forces, their doctrines, weapons, as well as the environments (land, sea, air, and danger) in which they fight—that make each war unique [1] .

Hence, virtual reality as either a pure cyberspace environment (such as a virtual world) or as a humanspace-influencing environmental overlay (such as a virtual informational heads up display over physical terrain) will only be capable of changing war's subjective nature. Based on this viewpoint, virtual reality—as a component of the cyberspace domain—solely allows for war to extend to a new conflict environment and nothing more.

From the Eastern tradition, a reading of *The Art of War*, written during the time of the classical 'Warring States' period in China, would suggest that war also has a timeless nature to it. That celebrated text is human focused—essentially technology neutral—and provides a human interactive interface with elements such as terrain, operations, intelligence, deception, leadership, and of course statecraft. If within this context the later rise of gunpowder weapons had no bearing on Sun Tzu's earlier and timeless views on war's nature, why would the emergence of virtual reality have such an effect?

Pre- and post-modernist interpretations of the nature of war, on the other hand, do not fully accede to the modernist Clausewitzian paradigm, its "war is a continuation of politics by other means" tenet, or necessarily all of its other doctrines. The ancient 'technology neutral' writings of Sun Tzu would also be of no consequence to these varied interpretations. These newer works, which are non-Westphalian state and war grounded, tend to follow either a) non-state foci derived from tribal, sectarian, criminal, and religious factors [2] or b) have an advanced technology emphasis intertwined with the 'a' foci or include future concerns over the breakout of hostilities between the United States and China, for example.

Billed as "The most radical reinterpretation of armed conflict since Clausewitz", Martin van Creveld's *The Transformation of War* most certainly challenges modernist interpretations of the nature of war. He attacks Clausewitz's celebrated trinity and war linked to national interest by proposing a substitute typology based on his own non-trinitarian theory of warfare. However, within the context of that scathing work, thoughts related to the impact of virtual reality are very much irrelevant. Clausewitz's adherents would further counter-argue that the objective nature of war—the essence of war—even with non-state groups taking up arms and giving rise to deadly internecine conflict, has not fundamentally altered it.

Coming from more of an advanced technology perspective, in tandem with a new and highly disruptive form of concept of operations (CONOPS), we witness Chinese *Unrestricted Warfare* thinking with its various cocktail combinations and 'going beyond limits' mentality being advocated. Still, virtual reality represents just another in a long list of types of warfare that can be drawn upon and combined for offensive effect [3] . So, within that paradigm of thinking, virtual reality will by no means change the nature of war.

Even my own writings on 5th dimensional operations—which focus on the advanced space-time manipulating capabilities cyberspace offers—do not view virtual reality, at least on the operational level, as significantly altering the fundamental nature of war. Battlespace dimensionality has advanced over time as has the human civilization energy level (e.g. human, animal, engine, etc.) underpinning it. However, this time around at the epochal level of change, from the modern to the post-modern, something very significant may be taking place.

This brings us to science fiction-like views of virtual reality. They provide us with a very different perspective of how sentient life, and as a result the conduct of war, may be changing. William Gibson in the cyberpunk novel *Neuromancer* likens cyberspace (eg. virtual reality) to:

A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding... [4] .

Actively engaging in such a 'consensual hallucination' was predicated on neural human-machine interface by hardline. Now of course this would be via wireless access, jacking into cyberspace. Combined with projected advances (applying Moore's law and others) to artificial intelligence

systems—eventually giving rise to intelligence and semi-sentient machines themselves—we can see that the very nature of humans and machines may be fundamentally changing. Such change has to be considered equivalent to the objective level of change found in Clausewitzian thinking because if the very essence of being a human or a machine is altered—with men and women living in humanspace and cyberspace simultaneously and machines potentially dreaming [5] —then so too must our interpretations of what is the nature of war.

It has been said, 'Reality is in the eye of the beholder.' As can be seen, how you go about defining the nature of war and viewing the overall significance of virtual reality will lead you to disparate answers about the impact of virtual reality on war's nature. It would be fascinating to have this question revisited in the mid-21st century and see if an unenhanced human still responds to this question or if we would encounter an entirely different form of sentient being. In retrospect, who, or what, answers such a prompt at that point in time would likely give us the definitive answer we are presently looking for.

The views expressed in this essay are those of the author and do not necessarily reflect the official policy or position of the Department of the Army, the Department of Defense, or the U.S. Government.

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[1] . Antulio J. Echevarria II, *Globalization and the Nature of War*. Carlisle: Strategic Studies Institute, U.S. Army War College, March 2003: v.

[2] For a recent example, see Patrick Cockburn, "The Nature of War Has Changed." *Counterpunch*. 3 March 2014, http://www.counterpunch.org/2014/03/03/the-nature-of-war-has-changed/ .

[3] See, for instance, "Harmony & Chaos: The Principles of China's Unrestricted Warfare." *The International Relations and Security Network* . December 2009, http://www.isn.ethz.ch/Digital-Library/Articles/Special-Feature/Detail/?lng=en&id=162588&contextid774=162588&contextid775=162582&tabid=1454240802 .

[4] William Gibson, *Neuromancer*. New York: Ace Books, 1984: 51.

[5] Philip K. Dick, *Do Androids Dream of Electric Sheep?* New York: Doubleday, 1968.

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